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A report is made to the Secretariat of the Council of Europe of a case study on the introduction of the concept of permanent education in Denmark. The supplies of education, which have been limited to clients in childhhod, adolescence, and yound adulthood, should now be distributed over a lifetime. Economic growth was formerly explained by input of land, labor, and capital; now it is accepted that research and education also are input factors. Political integration in Western Europe will lead to economic growth but may also cause disruption and unemployment in certain industries. Dependent on foreign trade, Denmark is particularly vulnerable; the best basis for industrial development will be a stronger educational system combined with research. A plan for the introduction of permanent education migh* comprise: provision of educational supplies to all major professions and occupations; reorganization of the existing system; research, development, and control functions; and reorganization of educational administration through legislative amdendments. (eb)

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by

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INTRODUCTION

The Council of Europe is a meeting place for representatives of governments and parliaments of most of the countries of Western Europe. The populations of these countries have in recent times - i.e. in the present century - been the victims of two world wars, fought on large areas of European territory, involving in both cases most of the countries in two opposing groups of allied nations. Today, each of the Western European countries still has its own military forces, now armed with extremely efficient weapons, including long-distance rockets for explosive missiles, - some even loaded with nuclear material - more or less ready for deployment in a third world war, which might be more destructive and disastrous than the first two.

It was against this background that the Council of Europe was established on 5 May 1949 to form a common place for negotiations among representatives of the governments and parliaments of the member countries with the multiple purpose of preparing for greater political unity within Western Europe and for social, economic, scientific and cultural progress in the member countries.

Within this framework the Secretariat of the Council of Europe among its many activities, has taken on the task

- of establishing a scientific documentary basis for future work on the development of permanent education in Europe, and

- of identifying significant trends of thought which place this work in the perspective of Europe twenty years from now.

The term permanent education applied above is a new concept which comprises the whole field of education spread out over the entire lifetime of a person, in appropriate stages and periods, taking into account the continued development of the abilities, motivations and aspirations as they vary with age and with the settings in which the individual is placed from period to period in his life.

The Secretariat has commissioned a number of case studies on the application of the concept of permanent education to individual member states in a long-term perspective.

This report which is concerned with Denmark expresses the personal views of the author.

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GENERAL ASPECTS OF PERMANENT EDUCATION

The supply of education

The concept education is broady defined in this report. It includes education as it is dispensed in all kinds of educational institutions such as nursery-schools, schools and universities. It also includes out-of-school education such as educational broadcasts and television as well as education by correspondence. Within the definition of the concept education should also fall apprenticeship and similar kinds of "learnerships", where the learner is placed in real working situations with the aim of learning a trade or a profession.

In order to avoid trivial, vague or misleading discussion the concept education in this report does not, however, include visits to theatres and cinemas, occasional conversation and other entertainment, although in many cases such activities may have just as much educational value for an individual as school experience.

The pupil or student, as a client of education (1), may generally be considered as being at the receiving end of a supply or provision of education, just as the same individual in other situations is supplied, say with medical treatment or food, rest or recreation.

The supply of education as defined above has hitherto been limited to clients in childhood, adolescence and young adultship with the emphasis on childhood, whereas the supply to clients of higher age quantitatively only has been very meagre. The supplies of food and rest are more evenly distributed over age, whereas the supply of medical treatment is concentrated much more on the later stages of adult life, when attacks of severe diseases become more frequent or even chronic.

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(1) The term client of education is used analogous with the term client of different other professional services, those of medical doctors, dentists, lawyers etc. The term is not used in the same sense as customer (the person that pays for supplies of merchandise) because education most often is given gratis to the client i.e. paid for by others - parents, employers, the municipality or the state.

In dealing with the concept permanent education, which implies supplies of education throughout a whole lifetime, we are questioning if there is an optimum distribution of the supplies of education over the different age-intervals. We raise not only the question whether there should be more education at later stages of life, where the supplies hitherto may have been too meagre, but also if there should be less at some of the early stages of life. It is furthermore also a question if the supplies at the different stages should be otherwise composed.

In order to answer these questions we may start with an investigation of the reasons for the present pattern of distribution of the supplies of education to the clients according to their age. In general there are the following stages:

	Client age	
Type of education	start	end
nursery-school	2- 4	5- 7
primary school	5- 7	12-16
post-primary	12-16	16-20
secondary school	12-16	18-20
post-secondary	18-20	22-28
adult	18-20	22-100

As will be seen in the table, the 6 types of education overlap in the age-levels, and this is due not only to differences from one country to another but also to the existence of a multitude of different patterns within the same country and to the individuals' different performance within the system.

Generally speaking, most of the educational supplies are available from age five to age eighteen to twenty-five or during one quarter to one third of the individual's lifetime. That they also may be very unevenly distributed over the different social sub-groups within the young population is another matter, which may require special attention.

The design of the educational pattern and the volume of supplies of education are not the result of one well-considered integrated planning effort, but of a historical development which has not yet come to end. Educational supplies have been given, because it has been gradually recognised in increasingly wide circles, that education is a key to a better life. Very often, different ministries, departments, commissions etc. are responsible for the different categories of educational supplies, and there is not sufficient co-ordination.

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If we compare the desire for educational supplies with the desire for supplies of food or rest, we find a great difference. Food and rest are absolutely necessary for the survival of the individual. At regular intervals we become irresistably hungry or sleepy, and this is the signal for immediate action to get food or rest. We can - sometimes we must - delay the consumption of food or rest some hours, but we cannot live without.

There is no similar strong psycho-physiological mechanism in the individual when it comes to the desire for educational supplies. There is no need for "compulsory eating" or "compulsory sleep" but the institution of "compulsory education" has been considered necessary in order to make sure that all children learn a certain minimum of reading, writing and arithmetics.

The effect of the educational supplies

In recent years, there has been more and more recognition of the influence of the educational supplies on economic growth in a society. In economic theory, economic growth was formerly explained by larger input of certain production factors, mostly land, labour and capital. Empirical studies showed, however, that this explanation was insufficient. There had been a larger growth than could be explained by the input of those factors. This has led to discussions of what other factors are involved. Now it is generally accepted that research and education are among the supplementary input factors that cause economic growth. The respective roles of research and education remains to be studied more closely as well as their mutual interplay and their interplay with the other production factors. Special attention is now given to the influence of highly qualified manpower, and studies of its utilisation are under way. As the existence of highly qualified manpower is a result of supplies of education to certain clients of educational institutions, such studies may also provide a better basis for future educational policy.

More intensive adult education

There is much to be said for more intensive adult education: the generation who is now over twenty-five years of age has as a general rule had less education in childhood, adolescence and early period of adult life than the present young generation. Hence in a few years' time it may easily fall behind the younger generation in competition for jobs. To counteract such a

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development there should be supplementary education available for adult people. But at the same time there may have come up entirely new disciplines or new knowledge in other disciplines which also should be made available to the adult generations, sometimes before new syllabuses are prepared for the education of the younger generations. Such supplies of adult education should be carefully designed in order to be generally accepted. They should be able to compete with other activities - work or entertainment - that normally would occupy the time of those adults.

Reduced pressure on adolescent education

With more intensive adult education it may be possible to reduce the pressure on the supplies of education to adolescents and young adults. At the present time, there is everywhere a tendency to overload these supplies, because they are considered the baggage for a lifetime. We can compare it with an expedition to a big desert - tropical or arctic - where no supply-stations of any kind are established. By the time it sets off on its lengthy journey to the desert the expedition must have large supplies of food and other necessities. The situation would be entirely different if there were stations or depots along the route. The lifelong "journey" should in the future be supported by supply-stations all along the route. It will thereby be possible to travel more lightly, which means that it will not be necessary to try to load the memories of young people so much. This will at the same time be of great value to the educational processes during these early years. It will be an easier task for the teachers to ensure the motivation and attention of their young students.

Need for more research into the educational processes

In order to secure a more optimal distribution of the educational supplies over the lifetime of the clients of education we need the evidence of research into the educational processes. We already know much from research and experimentation devoted to the child's development. We may recall Maria Montessori's evidence of preferred periods in the life of children, when they are particularly sensitive to the learning of different exercises. This should be combined with Erikson's studies of the best periods for a number of fundamental mental processes, which will either secure mental stability, if they are taking place in the most appropriate periods in life, or result in a lasting deficiency, imbalance or instability, if, for some reason or other, they are neglected. Although some of

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these processes are most directly concerned with the person's family life - relation to parents or siblings - they are significant for the whole maturation of the person, and at some of the stages there ought to be an interplay between family relations and school relations, which is now more or less overlooked. Studies of emotional disturbances in childhood and adolescence have clearly demonstrated the significance of this interplay.

Need for more research on the group relations

One particularly important aspect is the influence of the dynamics of group work in education. In most educational situations in the majority of European schools and universities there is a marked emphasis on the teacher as leader of the educational process, issuing directives for the work to be done by obedient pupils or students. The teacher is supposed to establish and maintain discipline in a class of thirty to forty or - at the university - of 100 or more. There is an urgent need for experiments with other patterns, in view of the need for productive and creative adults in a dynamic society. There are very strong reasons to believe that the existing pattern hinders or delays the most desired development.

Research and development of an educational systems theory

With the development over recent years of cybernetics as a scientific discipline the educational processes may be a promising field for further research and development by the cybernetic approach. There are obvious difficulties involved in such studies, as permanent education covers so many different complex activities. But the application of cybernetics in other fields has had to overcome similar difficulties. It should be possible to define a number of key problems, which then could be treated simultaneously and separately with an ultimate co-ordination in view. Particularly with the use of computers as tools of research and development, the mastering of this immense task should be within reach. One could envisage several important results of such studies. They are hereby presented as preliminary postulates or working hypotheses, which might be the basis for introductory discussions among specialists in a research team:

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(1) The process of education can be better controlled, if it is viewed as an integrated complex process, depending primarily on a mutual insight among teachers and clients into the relevant factors.

(2) There is much to be gained by more understanding of the interplay between family, school and children in the first stages of education and the interplay of family, school, society and adolescents (or young adults) in the later stages of education (post-primary, secondary and post-secondary).

(3) Adult education can be an extremely efficient instrument for social, economic and cultural progress, if it is planned properly by teams of educators, administrators and other professional people.

(4) Educational systems should be designed with a balance between the following three main elements:

(a) Systems knowledge
(b) Element knowledge
(c) Application knowledge.

(5) Systems knowledge is the understanding of the most advanced scientific theory about factors at play and their interplay within the field of study, e.g. sociology, physics, chemistry, biology, geography.

(6) Element knowledge is the understanding of or acquaintance with the elements with which the scientific theory deals: groups or strata in sociology, energy, forces, waves and vibrations in physics, etc. etc.

(7) Application knowledge is the ability to utilise systems knowledge and element knowledge analytically and synthetically for systematic work within the discipline. A construction engineer for instance uses application knowledge in making calculations, drawings, specifications, etc. A teacher must have application knowledge such as didactics in order to plan the educational process of which he is in charge, preparing the set-up of instruments for laboratory work, having projectors, slides, tapes, charts, demonstration models etc. ready for use in the proper moments etc. etc.

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(8) The integrated planning of supplies for permanent education must be made by means of PERT-planning or similar systems, in order to ensure economy and efficiency. In such planning, it is of fundamental importance to make a diagnosis of the stages of knowledge in the whole population, the needs for qualified manpower in the different sectors of society and the availability of research results, teaching aids and teachers as bases for the educational supplies.

(9) Large savings and greater efficiency for the system as a whole may be achieved already in the preliminary stages of such efforts. The experimentation will be most profitable if it emphasises adult education, because there it can yield immediately applicable results.

(10) In the process of the further development and planning of adult education as a growth factor the focus should in the very first stages be on:

(a) the scientific workers in research and education, and
(b) workers in public administration concerned with the financial support of research and education.

They should work together in order to set up a common strategy for quick and efficient action, establish the goals and prepare the plans for political approval.

(11) The teacher in adult education will have a vital role to play in educational, social and cultural development. His training and retraining should be a matter of high priority. It should comprise a balance of up-to-date systems knowledge, element knowledge and application knowledge as previously defined. His training and retraining should take place in an institutional setting which today hardly exists anywhere in the European countries, and which therefore has to be created. It should be at university level and cater for research and development as well as education.

(12) The teacher is tending more and more to become a technician, who should be trained to apply the new technical aids for education.

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(13) To assist in the reorientation of the educational programmes there must be educational planners, consultants, co-ordinators, administrators and other specialists, whose training likewise is a matter of high priority.

(14) There would be a far too long delay in the implementation of plans for new educational supplies if they should await the education of young people through new programmes of the usual length of several years and then again wait for their maturation. The new programmes for young people should be given every possible stimulus, but higher priority must be given to retraining of people with more experience and maturity.

(15) The university should in principle and by definition be the centre for the highest education based on research. Permanent education should, however, place a wider obligation than hitherto on the university. It should also be the centre for the retraining of its own candidates and of others who have the ability to utilise the supplies from the university. The university should feed back knowledge and values into other educational institutions.

(16) In order to facilitate communication between the university and the other educational institutions great care should be taken to ensure a good organisation of the knowledge and its presentation. This implies that the university professors shall take part in the dissemination and transformation of knowledge. But they should be assisted in this task by the specialists mentioned above under (13).

(17) The curricula at all levels below university should be arranged in such a way that the forthcoming flow of research results can be easily absorbed. This may for instance be the case if much time is devoted to training in self-study techniques.

(18) At the most elementary stages of education (primary, post-primary and secondary) the curricula may more profitably be arranged in a few large groups, such as:

communication
orientation
creative work

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(19) Communication as educational subject comprises languages, speech and listening, reading and writing, literature, and the tools and media for communication.

(20) Orientation comprises mathematics, biology, geography, history, physics, astronomy, chemistry, etc.

(21) Creative work comprises drawing, painting, singing, playing, cooking, handicraft, design, drama, etc.

(22) Through such an integration of the many subjects in elementary education it would be possible to unfold the wide perspectives and horizons of the world today to the young generation, to stimulate productive curiosity and to maintain the desire to study, to communicate and to create. The end-result of such an educational approach would be more dynamic adult personalities with a greater capacity for continued growth.

(23) The reorientation of the elementary stages of education will require carefully prepared and strongly motivated retraining courses for the teachers already at work in these fields. Many of the teachers will need more factual knowledge, but everyone will need a thorough training in the application of new educational methods and a strong stimulus to work together with colleagues inside and outside their own school.

(24) In the reorientation of the first stages of education great efforts should be made to reduce the pressure of an excessive work load on the pupils or students.

(25) The supplies of education should be digested with the same pleasure as good food and enjoyed just as much as a healthy rest. There should be no threats to the students of severe examinations separating the more gifted from the less gifted. They are all members of society, and it is the duty of society through its educational institutions to provide valuable and well prepared supplies of education, thus stimulating intellectual growth in everyone.

The two chapters that follow are concerned with some aspects of future development in Western Europe and in Denmark respectively. It is only against this background that the application of the concept of permanent education to the Danish educational system in a long-term perspective can be investigated.

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SOME ASPECTS OF FUTURE DEVELOPMENT IN WESTERN EUROPE

The prospects for the next twenty years in Western Europe depend more or less on the interplay of forces outside its territory. A century ago Western Europe was the economic centre of the world, but step by step its relative importance has been considerably reduced. Now the great powers on the world scene are USA and the USSR. Western Europe - more particularly the UK, France, Belgium and the Netherlands - has since World War II lost nearly all of its overseas colonial territories. These territories have become independent sovereign countries, belonging to the family of developing countries, i.e. countries in the throes of a long-lasting economic and social crisis. The next decades will most probably be permanently overshadowed by the need for an immense effort in the more developed countries to assist the new countries to become stabilised, to hamper the population explosion and to develop their human and material resources.

Within Western Europe, vigorous efforts are being made to bring about greater political unity and economic concentration. The EFTA countries may, during the coming decade, be integrated in the EEC, with the result that most of Europe will be one large market. This is going to have a number of consequences for economic activities and for the development of human resources - employment, migration, settlement, etc.

The argument in favour of continued political integration in Europe is that it will lead to a more rapid economic growth through the international division of work. The resulting specialisation of the different sectors in the national economies will lead to higher productivity through mass production and mass distribution within the greater market.

There is, however, a reverse side to this development, namely that many industries will fall behind or become idle as will the people hitherto employed in these undertakings.

In order to reduce the effect of these negative factors, well planned and co-ordinated efforts must be made to stimulate personal initiative, inventiveness and entrepreneurship and other growth-stimulating abilities within the economic leaders and in the industrial and labour organisations. It is obvious that a period of drastic changes may give rise to a very great number of crises at every level of the economy in each European country. Most of the details of these developments will be unpredictable and therefore

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directing the efforts to prevent the crises will be a most difficult task. This may lead to the conclusion that there will be a need for action research and joint efforts to prepare as far ahead as possible both the measures to be adopted in order to take direct advantage of the greater market and the efforts to counteract the critical developments.

It is a field for political debate, where the extreme standpoints are:

(a) the liberal laissez-faire policy, and
(b) the socialistic central state-control of the economy.

There is no reason to believe that the tensions between these extreme poles will vanish within the next decades. The existence of a sharp demarkation line between Eastern and Western Europe is a demonstration of the antagonism between the adherents of the two political systems.

In the Western European countries there may be a new development towards a common formula aiming at a co-ordination of the economic forces. Such a need manifests itself at several levels, and at each level there are certain measures that may be found most expedient.

(a) At the level of an individual plant or undertaking. Here there is a need for further stimulus to management efforts for better co-ordination of the entire staff through organisation development.

(b) At the level of national industrial organisations, research institutes, professional societies and labour unions. Here there is a need for a two-fold effort, one to stimulate the organisation development within the enterprises, another to participate in regional and national deployment of the human and material resources.

(c) At the national level, where governments should stimulate not only economic development but also make sure that there is a constant concern for cultural and social development. Governments are also responsible for external relations, particularly during a period of European integration.

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(d) At the international level, where some international machinery is already in operation to facilitate co-operation between governments and parliaments and where a network of relations ought to be developed also among industrial organisations, professional societies, labour unions, research institutes, universities, professional schools, etc. in order to secure exchange of experience, research results, plans and ideas.

As so many new kinds of relations have to be established, maintained and developed, there is a vast field for action research and for co-ordination committees. The situation resembles the period after World War II, when under the Marshall Plan national productivity centres and productivity committees with representatives of government, management and labour were set up. Their influence reached a peak in the middle 1950's. There is a need for a revival and reorganisation of similar activities.

This time the campaign should have more elaborate aims and it should be an integral part of governmental policy to the extent of being reflected in the organisation of the cabinet. Traditions for fixing the number of ministries or departments and their tasks and responsibilities are very different from one country to another, but as there is an urgent need for the type of international co-ordination mentioned under (d) above, an attempt should be made to develop similar patterns in all countries because this may facilitate the co-operation. There is probably no patent once-and-for-all solution, but among the requirements for the optimal solution are:

Every cabinet and administrative government machinery should clearly respond to the needs indicated above under item (a)-(d). This may lead to new and expanded goal-setting for each ministry or to the establishment of co-ordination committees consisting of cabinet ministers for finance, education, labour and others with the task of developing plans, establishing priorities and implementing the plans. Or it might lead to the establishment of separate ministries for planning or it might be solved otherwise. The growing recognition of the important influence of research and education on economic growth may be reflected in the pattern of distribution of responsibility among cabinet ministers and their agencies.

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The future of Western Europe may, however, in the next decades be dominated by more severe crises than those originating from a determined effort for political and economic integration. Dangerous influence may come from crises and hostilities in other parts of the world, a third world war may lie just beyond the horizon, which eventually would arrest every effort for peaceful development within Western Europe. Other disturbing factors lie within the Western European system itself. Already now there is for example a marked tendency in wide circles among the younger adult generation to challenge "the establishment", whether as a system of representative democracy or more autocratic systems, as reflected in political constitutions or in organisations, industrial companies, universities, schools or elsewhere. A more or less diffuse and undirected revolutionary movement may suddenly gain momentum and overthrow well-established systems. Recent student demonstrations at universities are only one symptom of the existence of such forces. They can be found nearly everywhere in the Western European societies. They may be regarded at the same time as a threat and as a stimulus and challenge, calling for more creative work with group dynamics and organisation development.

A reinforcement of such kinds of threatening factors also comes from the development of extremely forceful new technical and managerial tools and from new inventions.

The mass communication media are now going to be supplemented by colour television, which will spread very rapidly all over Europe. Colour TV will probably dramatise all violent events everywhere in the world and thus be a stimulus to anxiety and unrest, much more than any medium ever before. No immunity towards such stimuli exists in advance in the population. Its effects on children will be particularly dangerous. The next generation will grow up with a very realistic idea of the imperfections of human societies all over the world and thus with an impression of a hopelessly inadequate adult generation, which must automatically be held responsible for this regrettable state of affairs. This is the negative side of this wonderful new technical innovation. It has a positive side, too, and this may be developed if educators of sufficiently high calibre can be trained in time to ensure that programmes in colour TV are well planned educationally and culturally.

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The managerial tools are now supplemented with more and more efficient computers. They can, however, only be efficiently utilised if the management system is well organised. There is therefore now a sharp rise in the competition among different managerial systems, and the result of this competition is obvious from the start.

Computorised management systems are by far the most efficient. The development of such systems will accelerate rapidly and irresistibly lead to a gap between generations: the younger generations will much earlier than hitherto be able to secure real influence in top management, because they have learned the new technique, including the mathematical discipline and the special language or jargon, which is necessary in order to communicate with electronic brains. The older generation will be pushed aside if they are not able as well as the new generation to modernise the managerial systems. These tools are applicable both in private and public administration. But in general they are more easily introduced in those private administrations which were already relatively efficient, before the new tools were introduced. Generally speaking public administration has been lagging behind in the managerial systems development and the gap between the efficiency in the private and the public sector will for some years most probably tend to widen. This is serious, not only for the public sector in itself, but for the whole of society, including the private sector, because public administration in so many respects represents the national policy as a whole. This will most probably lead to joint efforts for development of more efficient managerial systems and the application of computers as a tool for every kind of administration, even for co-ordination of private and public administration where this may be found valuable.

Computers are also an instrument for research. Just as computers represent an opening for a new era in management, they open a new era for research and development work. A similar tendency for a separation between generations as in administration will be found in research, but not quite so marked, because the leading researchers will usually be able quickly to master the new technique.

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With reference to these general aspects it may be justified to state that there will be a promising field of common understanding and co-operation between three groups in society:

public administration
private administration
research and educational administration.

Scientific and administrative workers in these fields may in the future be trained and retrained together and be able to develop an increasingly broad theory for a common system.

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SOME ASPECTS OF FUTURE DEVELOPMENT IN DENMARK

Within Western Europe, Denmark is one of the countries most dependent upon foreign trade and thereby particularly vulnerable in its economy. Denmark's material resources are few and poor, although the enormous arctic island Greenland, which is part of Denmark, may have much larger deposits of metals and minerals than hitherto detected.

This vulnerability may have stimulated Danish efforts for active participation in world trade and in world-wide transport. It is, at any rate, a fact, that Danish shipping is present on all seven seas, and that the merchant navy consists of very modern ships under competent management. Some of the cargo and passenger lines operate constantly, as far away as the Pacific Ocean. The largest Danish ship-owning companies run plantations and industries in overseas countries and they are very influential in Danish industry.

Another sign of Danish interest in world trade is its active participation in air transport, mostly as Danish partner in the Scandinavian Airlines System (SAS). The Copenhagen airport (in Kastrup) is among the leading ones in Europe. Its traffic is constantly growing and therefore a major expansion will have to be carried out in a few years' time to match the traffic, or else it will have to be replaced by another entirely new international airport. The decision on the location of such a new airport concerns not only Denmark, but also the other Scandinavian countries. Therefore the problem was on the agenda on the last session of the Nordic Council (Oslo, February 1968). It was agreed that the Danish and Swedish governments should try within the next few months to agree on the main questions involved. The decision is of particular importance because the new airport, will most probably be placed on a Danish island (Saltholm) in the sound between Zealand and Scania. A Saltholm airport will also be served by an internationally important new connection in the shape of combined railroad and motorway tunnels between Denmark and Sweden. The completion of such a combination of an international airport and a first class traffic highway between Denmark and Sweden will be an important step in bringing Scandinavia closer to the rest of Western Europe. It will be of similar importance for Northern Europe as the new Gotthard tunnel and the "Europabrücke" for Central and Southern Europe.

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Geographically, Denmark falls apart in many respects. Not only there are the enormous distances between arctic Greenland, the North Atlantic Faroe Islands and the rest of Denmark, but this small country is scattered over the map, consisting of one peninsula Jutland with little more than half the area and a little less than half the population and two hundred islands of which Zealand (with Copenhagen) and Funen carry most of the island population, while the two islands Lolland and Falster are "stepping stones" from Zealand towards the central European continent, and the island Bornholm is so far to the East that most Danish geographers for the sake of space economy insert the island in a quadrangle haphazardly somewhere in the frame of the map together with the Faroe Islands. Sometimes also large Greenland will be found in the frame of the map, reduced one hundred times in scale.

The many islands have been connected by regular ferry lines, but there are also passenger and cargo lines between Copenhagen and the larger cities Ålborg and Århus in Jutland. Some of the sounds have been bridged and at present the second bridge between Jutland and Funen is under construction. At the same time a tunnel is under construction passing the Limfjord sound between Ålborg and Nørre-Sundby. A very ambitious project is to build a ten mile bridge over Store Bælt, the belt between Zealand and Funen, or to lay a tunnel under the belt. This construction project may be started within the next decade or two. From a general European point of view the Great Belt connection is less important than the connection between Denmark and Sweden, but for the internal traffic in Denmark it is of great importance.

During its long history, Denmark, like so many other European countries, has had a changing territory. A modern Danish historian has expressed the view, that Denmark would not have existed today as one country, if Funen had not been there to link the Jutland penninsula together with the islands. This statement may be true. Today the capital, Copenhagen, is located excentrically - in the eastern part of the country - much to the regret of people in Jutland, especially those living in Århus, who claim that their town is not only the regional capital of Jutland - what others in Jutland would deny - but that it also ought to be the capital of the entire country.

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Politically it is a weakness - at the same time an advantage and a drawback - that there are so many opportunities and possibilities for utilisation of the land and the coast. Industry and commerce may be developed everywhere in the country: as there are so few material resources, no place has a most definite advantage over any other. The coast is ready for small harbours and the sea is fairly quiet all along the islands and along the east coast of Jutland. Therefore there is an abundance of small harbours, and no Danish harbour is really big. Agriculture is also found everywhere. The soil is nowhere particularly good nor is the climate, but mechanised tilling and a large supply of fertilizers make up for these handicaps.

These conditions have favoured political liberalism and delayed efforts for better national and regional planning. The proponents for planning can always be met with evidence from cases where one individual, in spite of handicaps, has been able to show remarkable results in some way or other. Fear of hindering similar heroic achievements in the future has held back activity for reasonably thorough political, economic and educational planning.

This predominantly liberal attitude is also reflected in the recent political history of Denmark. Only a few years ago a legislation on more central co-ordination of regional planning was approved by a small majority in the Danish parliament, but according to the Danish constitution it could be subject to a vote (referendum) by the whole electorate. The legislation was not favoured by this vote, and as a result the planning still suffers from meagre legislative support. This delays many kinds of planning. Among the more serious consequences is a delay in planning of industry location, in city and house construction planning, and in traffic planning.

Denmark has for a long time been known for its agricultural exports (butter, eggs, ham etc.). The total agricultural production has tended to grow steadily, due to increased productivity, but the agricultural population is declining rapidly, and it is at present seriously wondered, whether the younger generation will find a profitable future in agriculture. Mechanisation of the hard work in agriculture has been carried rather far, mostly with imported tractors and Danish agricultural machinery, supplemented by a highly developed system of factories for the processing of the agricultural products: butter and cheese factories and

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bacon and ham factories mostly organised as producers' co-operatives. There is also a diversified industry for supplies to agriculture, not only of machinery but also of artificial fertilizers, and of fodder to the animals. Danish agriculture is based upon individual private ownership of the farms, but there is a high loan rate in most farms, which makes the farm economy very sensitive to a squeeze between declining prices on the export markets and high loan interest on the domestic capital market. It was primarily in order to safeguard the farm economy that the Danish crown was devaluated shortly after the British pound sterling (November 1967).

The decline in the agricultural population has accelerated the need for a revision of the system of primary and secondary municipalities. The primary municipalities have had a typical population of 3-4,000 inhabitants. Only by reducing the number of primary municipalities and enlarging their areas will it be possible to maintain or increase the population per municipality. The aim is to have an average of 6-8,000 inhabitants. It is justified to increase the size of the primary municipalities for several reasons: the traffic is now carried by automobiles and trucks on good roads, and the municipality administration needs to take advantage of full-time specialists instead of a voluntary corps of the citizens. Also the municipal primary and secondary schools as well as social and health services need a larger population basis. As an important link in the municipal reform the middle-sized towns (populations from 10,000 upwards) get much larger areas by incorporation of the surrounding municipalities which have already to some degree become urbanised. And finally there may also be larger secondary municipalities - ten or twelve instead of twenty-three.

The country's capital, Copenhagen, represents a particularly difficult administrative problem. It has been growing by continuous addition of larger and larger areas as surburbs. At present there are twenty-five to thirty municipalities, that belong to the metropolis in a wider sense. Most probably it will not stop growing during this century. The Copenhagen municipality - the city - is the largest among the metropolitan municipalities, but it derives its income from a stagnating or slightly decreasing population and at the same time it has heavy obligations as the country's capital:

the royal residence
the government administration
the parliament
museums
academic educational institutions

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amusement centre with Tivoli, theatres, cinemas and nightclubs
tourist centre with hotels and restaurants
international freeport
air terminal
main shopping centre in the country
centre for most major national organisations etc. etc.

As mentioned above the Copenhagen international airport, which now is situated in one of the suburbs - on the island of Amager - may have to be moved to another island - Saltholm - while at the same time an international traffic artery will pass close to or through the metropolis. Problems of an unusually complicated nature present themselves with great urgency. Their solution will be very expensive, but if they can be solved ideally they will be an asset not only to the capital, but to the country as a whole and to Northern Europe.

A modernised metropolis combined with a large international airport and an international throughway for high-speed railways and motorways would open possibilities for a strong North-European centre based primarily upon Danish and Swedish co-operation. The planning will have to be accelerated in order to avoid wasted investments that only contribute to solving day-to-day problems. Successful progress can only be made if Danish and Swedish authorities can agree on common goals for joint regional planning.

Among the long-term assets for Denmark is its diversified industry combined as it is with a highly developed banking and insurance system, as well as with world trade and shipping. Industry has grown under some protection, but has proved itself able to compete internationally. It needs, however, further development, technologically as well as managerially. There is no particular distinction between the conditions for Danish and other European industry other than the smaller scale. The best basis for further industrial development will be a stronger educational system combined closely with research.

In closing this chapter an attempt is made to illustrate the main trends in the employment of Danish manpower in a table taken from a recent report by the Danish Planning Council for Higher Education:

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Trends in employment of Danish manpower

	1965 (1)	1980 (2)	(2)/(1)
	in thousands		in %
Agriculture etc.	328	200	61
Industry and public utilities	691	740	107
Building and construction	161	190	118
Commerce, banking, insurance and transportation	484	540	112
Private and public services, including education	370	540	146
Other	37	40	108
Total employment	2,071	2,250	108
Total population	4,730	5,305	112

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TRENDS IN EDUCATION IN DENMARK

Up-to-date descriptions in English and French, of the existing Danish educational system and of its historical background and development, are already available for the interested reader. The recent trends deserve, however, to be briefly summarised and commented upon:

Basic education

Nursery schools are in Denmark a field for fruitful experimentation with modern pedagogics and the teachers are generally not over-ambitiously desirous to teach the children a lot of so-called "useful knowledge". The training of teachers for nursery schools is psychologically in a satisfactory state, but there is an under-investment in facilities. Only about one third of the children attend nursery schools, due to under-investment in nursery schools.

There has, in recent years, been a growing interest in an addition of a preparatory year to primary schools. Here is a common ground for pedagogical co-operation between the two types of schools and their teachers.

The primary schools give the seven years of compulsory education and offer additional years on a voluntary basis. Right now there is a bill before parliament which aims at increasing compulsory education to nine years as from 1973.

The structure is at present as in diagram 1 for the first seven years and as in diagram 2 for the following years. The 6 a, 7 a and 6 b, 7 b branches in the primary school tend to disappear in more and more schools, which means that the children are kept together in the same classes, 6 c, 7 c.

The main branching-out takes place after the seventh year: 8, 9 and 10 year or 1.r, 2.r, and 3.r. (Realafelingen). After 2.r, the students may choose 1.g, 2.g, and 3.g, (gymnasiet) or they may choose to pass into 1.g, from 3.r. As an alternative to 1.g, 2.g, and 3.g, there is for the somewhat older students a two-year course which is equivalent in competence to 1.g, 2.g, and 3.g. There is also a similar one-year course which corresponds to 3.r.

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As from 1967 there has been another line of some interest: HF 1 and HF 2. (Hojere Forberedelseseksamen). This is a course which will, most probably, give the same competence for entry into higher education as 1.g, 2.g, and 3.g.

The curricula and syllabuses in the general school system are in many ways regulated by legislation or administrative orders, but there is much freedom left for local authorities, schools and teachers to choose text books, and didactic methods. Within this system, there are two different approaches: one is to define in great detail what the content of the education shall be, the other is to give an opportunity for choosing elective subjects. The student may for instance choose between French and Russian language in 2.g. (linguistic line, modern language branch). In HF as well as in 8, 9 and 10. year this principle is carried further: the class and the individual teacher together decide within certain limits on the subject matter to be treated. The trend in Danish primary and secondary education is clearly towards integration of lines and branches into one school-line, which then will be based upon the principle of using electives to a high degree. Extrapolating this tendency some years into the future we may end with a pattern as in diagram 3. Here is a ten year school - nine years compulsory and one year voluntary - and HF1, HF2 is on top of these years. Thus 1.r, 2.r, and 3.r, as well as 1.g, 2.g, and 3.g, have disappeared. The students may under such a new system leave school after nine, ten or twelve years. There will be ample opportunity for individual combination of subjects and subject levels in order to prepare for the different professional schools and educations.

The age distribution for children and students in the basic school system was in 1967 as in diagram 4. There is a solid block from age seven to age fourteen - the period of compulsory education - 98-99% of all children attend school. Then the attendance decreases year by year. There is a thin "antenna", which goes up to age twenty-five or higher, this is the attendance at the two-year courses corresponding to 1.g, 2.g, and 3.g, or the one-year course corresponding to 3.r.

How the attendance might look ten to fifteen years from now under a law of nine years compulsory education is shown in diagram 5. The solid block for the period of compulsory education goes up two years higher. In the centre of the diagram is a much broader "tower", which means that more young persons stay for twelve years in the basic school system.

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Higher education. Specialised education

There are in Denmark three universities (Copenhagen, Århus and Odense) and fourteen specialised institutions which are generally regarded as academic institutions. Independent research is the normal requirement in order to belong to the group. Most academic courses are of five to eight years' duration.

Further there are teacher colleges, teknika (for teknikum engineers), technical and commercial schools and a few other institutions, whose educational standard is close to the academic education, but whose courses in general are of shorter duration: one to four years.

This whole group of educations has attracted considerable attention in recent years. The following trends can be observed:

1. As in most other countries, year by year, an increasingly large proportion of the youth desires to get such an education.

2. The expansion of the institutions lag behind the demand with two alternative consequences:

   (a) entrance restrictions, or
   (b) insufficient standards, too little space, too few teachers, too little time for preparation of necessary standard improvements.

3. There is a growing realisation that a long-range permanent, realistic planning has to be made not only to get enough building, teaching and research capacity but also to improve the entire structure of the system.

Gradually the planning efforts are strengthened and results are forthcoming.

Major steps have been taken in accordance with recommendations from the Prime Minister's Committee for Technical and Scientific Manpower (1956-1959):

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A permanent Planning Council for Higher Education was established by the end of 1964. This council has in its reports put forward a number of suggestions for reforms and has estimated expansion needs and calculated the investment budgets up to 1980. Thus the field of higher education is now ahead of most other public or semi-public sectors in Denmark in its range of planning. The prospects for results are good.

The Planning Council for Higher Education has suggested that the structure of the educational system and the arrangements for instruction should be organised in such a way as to pay maximum heed to any student's abilities and interests in acquiring knowledge and personal development, as well as to the requirements of an ever increasing specialisation in modern society. The prolonged and sharply divided disciplines should be reorganised giving possibilities for:

(1) Termination of studies at different levels

(2) Organising studies in accordance with personal interest through liberal syllabus regulations.

These considerations have led the Council into reflections about the concept of centres of higher education. Each centre should specialise in a number of related groups of subjects. It is an important consideration in the planning of university centres that educational fields, other than those normally called higher, should be included in the activities of the centres.

This should make it possible for students having obtained a basic (academic) training to be transferred to non-academic fields of study in order to supplement already acquired knowledge through courses of short duration in practical subjects of the non-academic fields of study referred to.

In the same manner, it should be possible for those who have finished a non-academic education to be transferred to a related field of academic education and be exempted from courses in subjects already satisfactorily completed.

The Council emphasises the advantages connected with a geographic concentration of several fields of education of different levels.

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1. More flexibility is assured.

2. Students will have better possibilities than now for finishing their education at a level corresponding to their interests and abilities.

3. Contact possibilities between research workers in different fields will be improved.

4. Possibilities for the establishment of large research centres with a diversified staff of research workers will be increased.

The Council did not take a decision on the problem whether it would be appropriate to establish joint leadership for a centre. It is, however, under all circumstances insisted that practical advantages might be attained by locating a whole group of different educational fields in one geographical area.

There will, if these recommendations are accepted by the government and parliament, be an obvious need for a reorganisation of the Planning Council, in order to make sure that a true co-ordination of the whole field of academic and similar educations can take place.

Vocational and technical education

There is in Denmark a great number of educations for skills and professions, regulated under the Act of Apprenticeship. (The system is described in an ILO-CIRF publication: European Apprenticeship.) The majority of these educations are designed either for skilled workers in industry and handicraft or for employers in the distributive trades and in office administration.

Some patterns of apprentice education in industry are shown in diagram 6. The periods with education in the technical school are very firmly regulated by a recognised syllabus supported by frequent teacher training courses, inspection etc., whereas the control of shop-training generally is rather loose. Up till now most of the apprenticeship period has been spent working at the employer's shop, but there is a trend towards spending more time at the technical school at the expense of the training time in the shop.

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Entry into apprenticeship within industry and handicraft may take place immediately after the end of compulsory education, but this is becoming more and more rare, because the employers prefer to enter contract with adolescents with a more elaborate basic education. Within distribution and office administration the same tendency is found, but it is even clearly stated that entry into some of the courses at the commercial schools is only open to studens with nine years of general education.

Diagram 7 shows the age distribution for apprentices. It will be observed that the majority of apprentices are over eighteen years of age. Originally, the main purpose of the apprentice act was protection of children under age eighteen, but as the age of entry goes up the need for such protection will be less imperative.

There is nowadays in Denmark a widespread recognition of the need for further reforms of apprentice education. A special small committee was set up about a year ago in order to produce suggestions for new schemes. Another committee has, in consultation with the parties on the labour market, suggested considerable increases in the minimum rates of pay to the apprentices. The economic improvements that have been introduced are still too small to compete with the payment for work not regulated by the Apprentice Act, and this may have a negative effect on many an adolescent's desire to be trained as apprentice.

A separate education system for workers in industry etc. is available for adults without apprenticeship. The main elements are sequences of short full-time day-courses (one to three weeks), mostly of a practical character, to ensure rapid transfer of the acquired skills into practical application on the job.

There are several other educations of similar character, but measures by the number of participants apprenticeship is still by far the largest group.

Continued education Provision of further training and education

There are many examples of provision of further training:

Technology

Technological institutes have a threefold activity:

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(a) education - with the emphasis on further training of skilled workers in industry,

(b) consultative assistance to small industry and handicraft,

(c) applied research on the request of industrial organisations or individual companies.

Since 1965, an additional further training system for commerce and industry has been developed. A central co-ordination council advises the Ministry of Labour on the need for further training. The training programmes in the different trades are prepared in bi-partite committees of management and labour representatives, often with the help of consultants. The courses can be given anywhere; they often take place in technological institutes, technical schools or commercial schools.

The large investments in electronic computers for administrative data processing have recently stimulated a recognition of enormous training needs. Most of the major organisations within the private sector have in 1967 joined in a council for development of high-quality training programmes.

Management

During the years 1949-1955 the Marshall Plan Technical Assistance Programme greatly stimulated efforts for better training courses for shop stewards and management specialists. The labour unions and the management organisations were assisted by consultants' training funds and in other ways through the Danish central productivity councils. After the end of the Marshall Plan these activities continued. The Platt Report from OECD/EPA led to a thorough investigation of the problems, resulting in an elaborate Danish report and a conference in 1966.

On the basis of the recommendations in the report from the conference, the Productivity Council has suggested certain co-ordination measures, which now are under consideration in interested circles.

Academic and similar professions

Several academic associations have for many years had further training courses. This applies to the medical profession, dentists, engineers and others.

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The teachers in primary education, who get their initial teacher education in the teacher education colleges (there are altogether thirty such colleges) have their own institute for further education. This is an academic institution with professors and its own research programme.

Quite recently, the Planning Council for Higher Education decided to make a survey of all further education for academically trained personnel and it will also try to assess the possibilities for better programmes through co-ordination of scattered efforts.

Diagram 1, see text page 1

Primary education

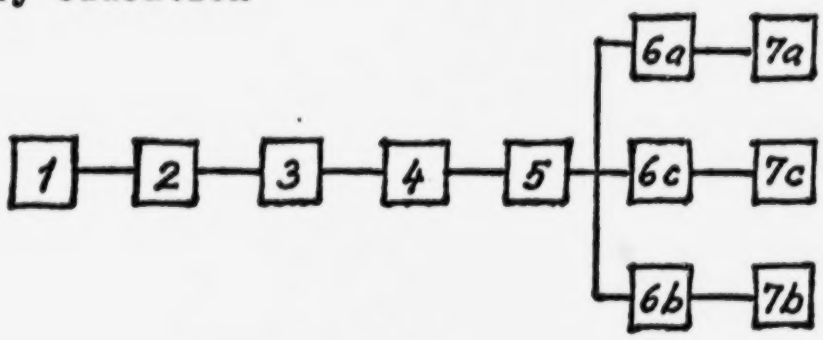


Diagram 2, see text page 1

Secondary education

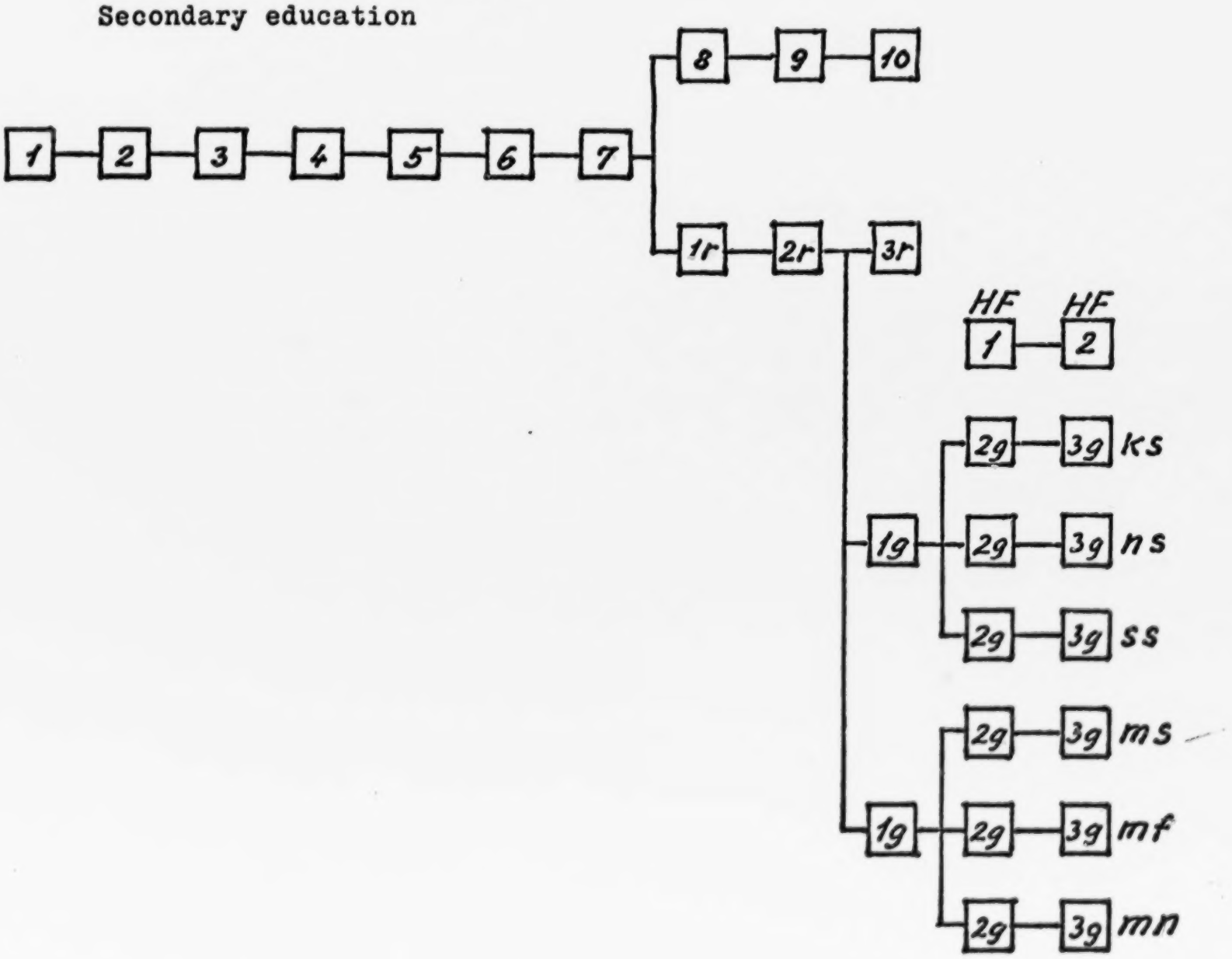


Diagram 3, see text page 2

Primary and secondary education
10-15 years from now

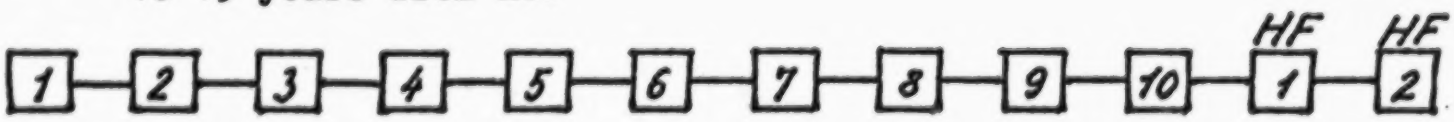


Diagram 4, see text page 2

Basic education
Age distribution, now

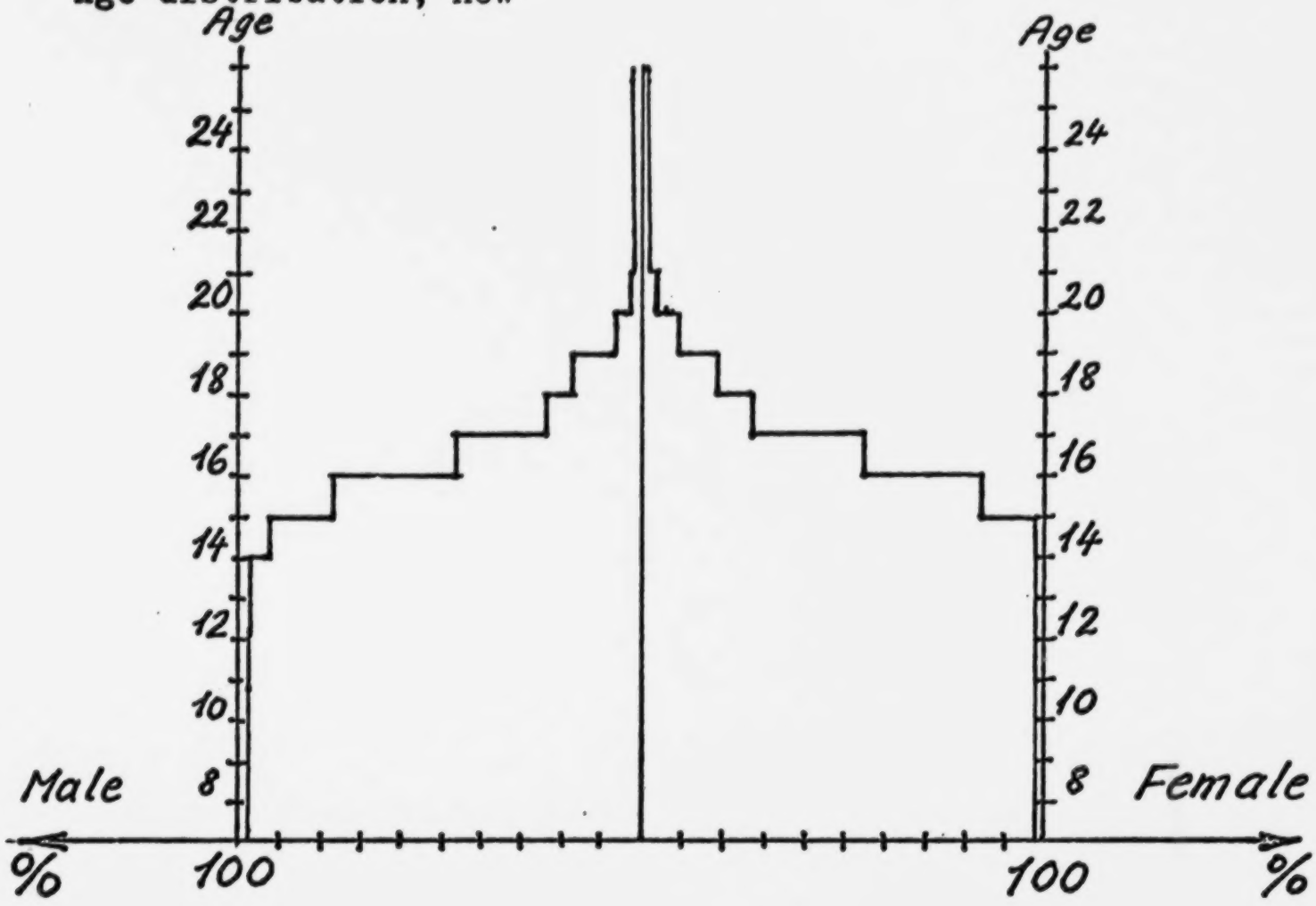


Diagram 5, see text page 3

Basic education
Age distribution, 10-15 years from now

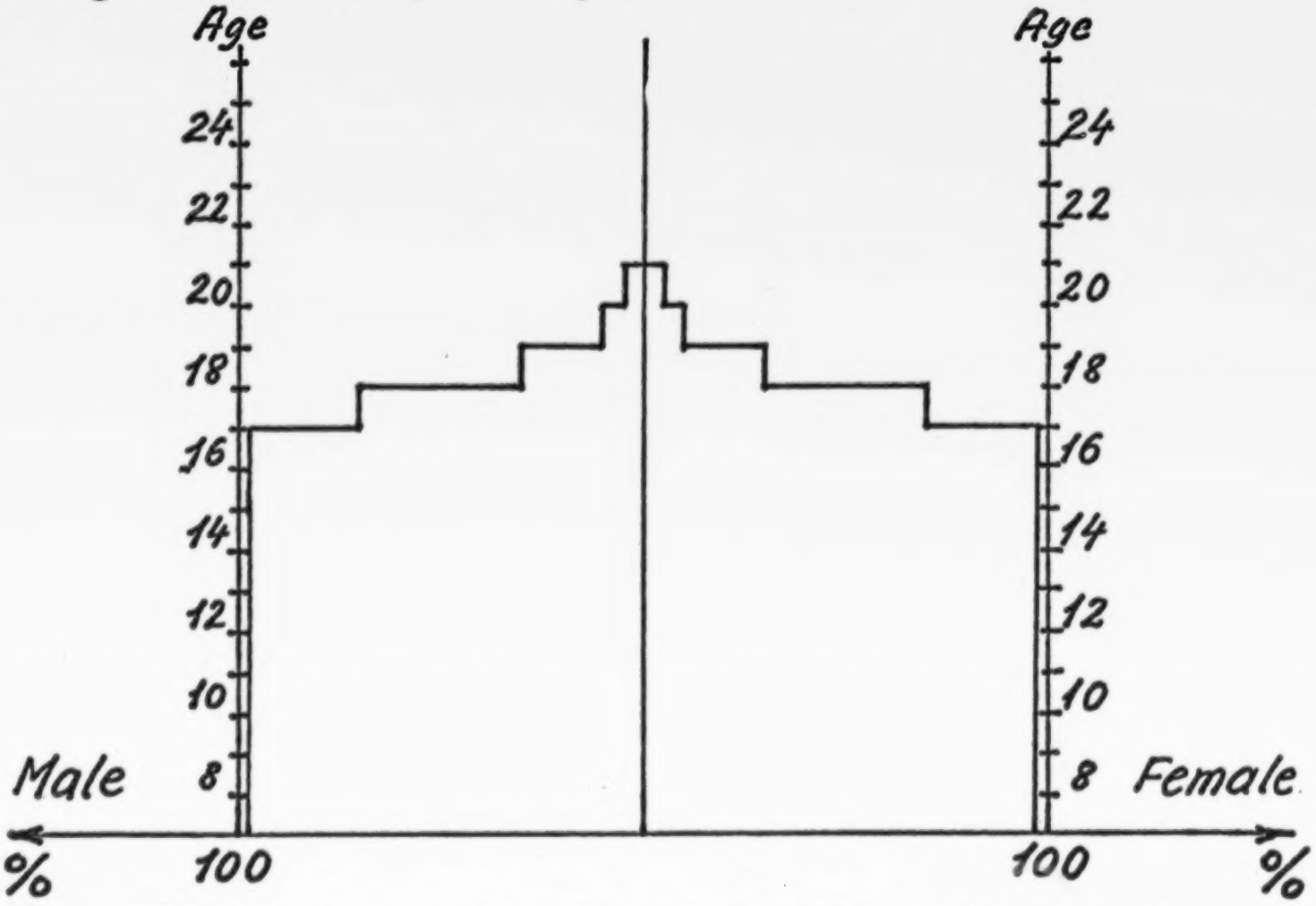


Diagram 6*, see text page 5

Apprentice education patterns

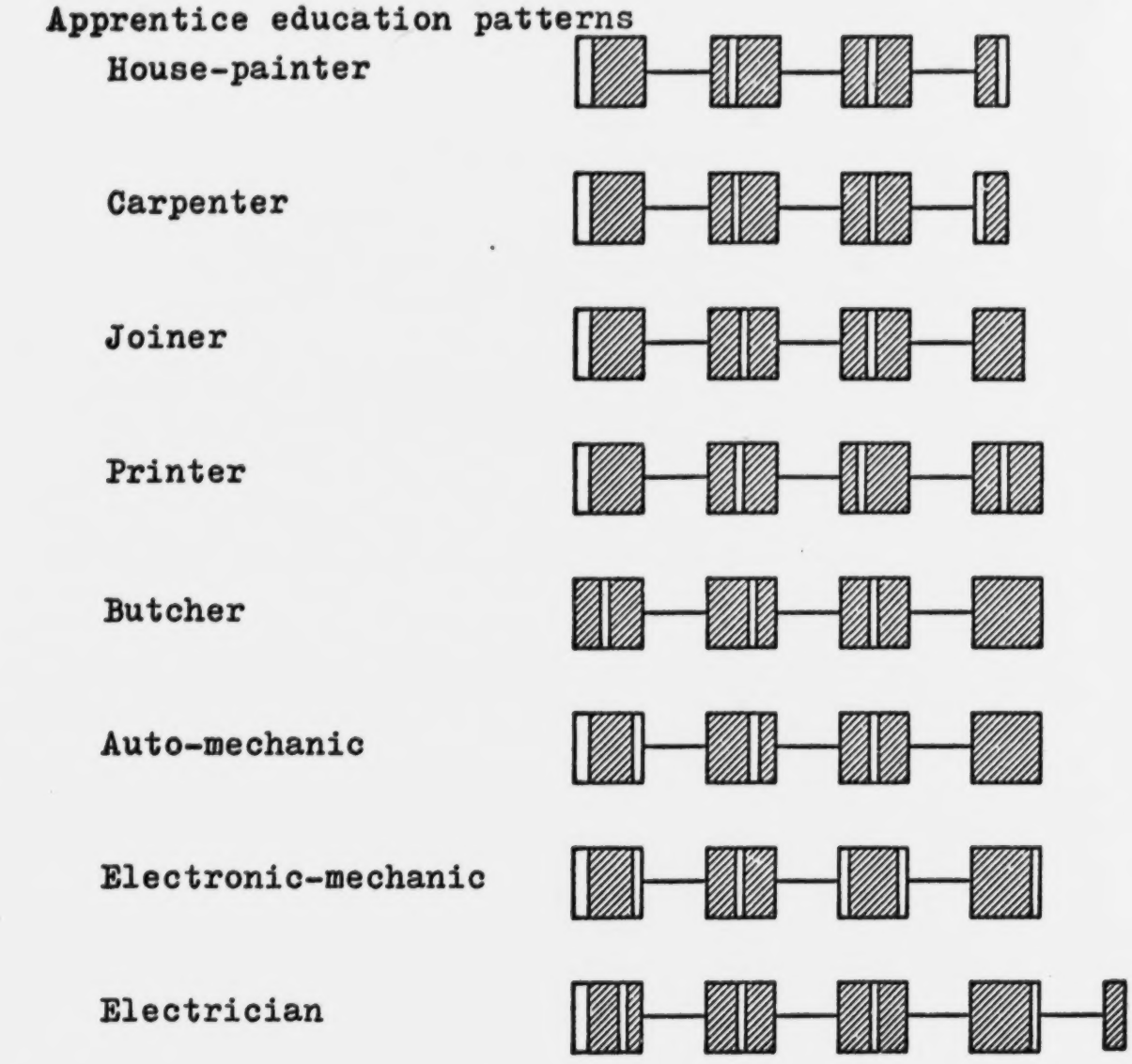
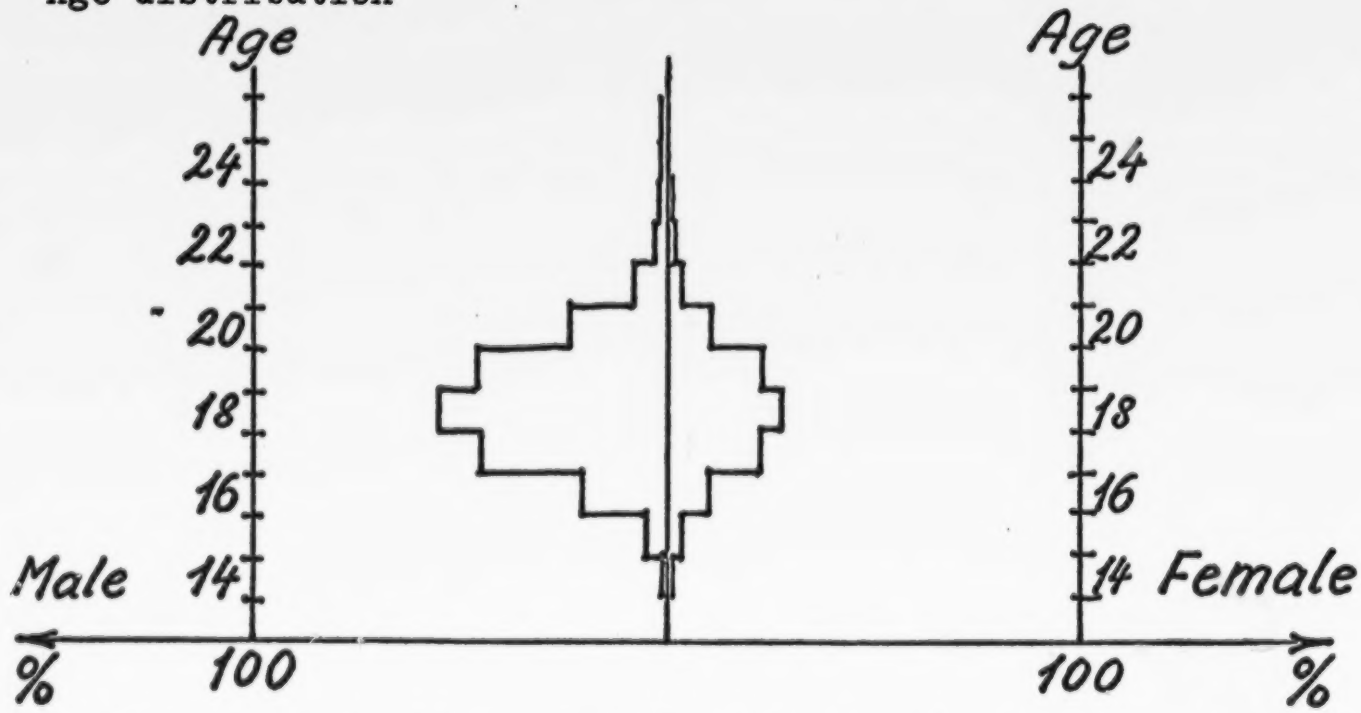


Diagram 7, see text page 6

Apprentices
Age distribution



Attendance of education in the Technical School

Period of work at the employer's shop

A full square stands for one full calendar year of the apprentice time

INTRODUCTION of PERMANENT EDUCATION IN DENMARK

The preceding four chapters set out the elements or basic assumptions for an action plan aimed at introducing permanent education in Denmark. This treatise should not go so far as to outline a plan. The remaining task in this final chapter is therefore only to indicate a framework for such a plan.

As Denmark is on the threshold of entry into a greater European market and is facing many other significant problems, the introduction of permanent education should be part of the major planning efforts for the desirable developments in the country as a whole.

A Master-Plan for the introduction of permanent education might therefore be composed of the following main parts:

1. A plan for the educational supplies to all major professions and occupations in the adult population. In this plan there must be a complete description of the structure for the educational institutions, created either by adding new departments and teaching personnel to existing institutions or by establishment of new institutions.

2. A plan for the adaptation, reduction of pressure and reorganisation of the existing educational supplies to children, adolescents and young adults under the new condition of "permanent education".

3. A plan for the necessary research, development and control functions for the additional as well as the existing educational supplies.

4. Recommendations on the reorganisation of the central, regional and local administration of education and proposals for the legislative amendments.

The following comments can at this stage be added to the four points:

ad 1.

It will require surprisingly little extra space in the

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existing institutions to add the new educational supplies to the system as a whole. It is, however, necessary to have hotels with sufficient space and personnel in the educational centres to house the adult students during their retraining periods. The extra cost of study, board and lodging may by far be outbalanced by the higher value of the services the adult students will be able to supply in their jobs and professions after the end of their studies. Much of the study-time can be spent at the normal work-place or at home, stimulated by correspondance, television, film and radio.

There will not be any standard pattern for all professions and occupations, such as a "sabbatical leave year". The educational supplies must be very carefully designed according to the needs. The development of educational retraining facilities in many Danish organisations should not be counteracted or regarded as a superfluous competition to existing or new educational institutions. But in the future it must be a requirement that the interested organisations and professional societies are enabled to exert a real influence on the educational programmes and curricula in the publicly supported institutions. Gradually, the programmes for the younger generations may benefit tremendously from such a working relation between the educational institutions and the interested groups in the community.

ad 2.

There will probably be a strong resistance towards any attempt to reduce the pressure on the educational programmes for the young generation. Therefore it may be required to prove by experiments and in other ways that it really is justified to let the younger generation start their careers with a much lighter baggage - otherwise composed than hitherto. In the forthcoming "computer age" it is meaningless and far too expensive to try to squeeze a lot of factual, encyclopaedic knowledge into the minds and memories of young people. They should rather learn how to use handbooks, computers etc., intelligently.

It is necessary to prepare the new generations for an entirely different, more dynamic society by putting more emphasis in basic education on creative work, communication and orientation.

ad 3.

When it is generally recognised how important the whole educational system is for economic growth and welfare in society, it will also be understood that research and development activities are necessary to secure the best possible functioning of every part of the system. There is already in Denmark a rapidly growing understanding of the value of research and development, but also impatience, because research results only have been forthcoming

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rather slowly. It will be necessary to retrain educators and administrators in research management.

ad 4.

At present there is in Denmark only little assurance that new discoveries in the scientific desciplines quickly sift through the educational system into the points of contacts with the clients. This is partly due to the administrative structure, where uninformed local authorities in their efforts to save money often hamper progress. At the same time, they often protect unqualified local personnel too much from justified complaints over inadequate quality standards. "Compulsory education" should first and foremost be interpreted as an obligation for society to give educational supplies of the required quality, and this should be reflected in legislation on education as well as in the central, regional and local administration.

Concluding remarks:

The purpose of a proper introduction of the concept of "permanent education" is much more than just to change the balance in the educational system by giving more attention to adult retraining and further education and reducing undue pressure on the younger generations. It is the key to a more rapid evolution in society by its combination of educational supplies with implementation of overall long-range planning. In the future, Denmark may benefit much from further co-operation with international organisations such as the Council of Europe in an exchange of experience, ideas and plans in this field and thereby be able much earlier to get over the critical phases of an integration in a wider European market.

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